A comparison of farm typology approaches in Northern Ghana

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Introduction

Grouping diverse farm households into subsets or ideal types can support the development (selection of farms), implementation (targeting and scaling-out of innovations) and monitoring (scaling up of impact assessments) of R4D projects. Different approaches to typology construction can have different results and this will affect the meaningfulness of the resulting types for involved stakeholders.

Objective

Comparison of two approaches to the typification of 80 surveyed farm households across three Africa RISING project communities in Ghana's Northern Region: statistical (top-down, researcher-defined) and participatory (community-based, farmer-defined).

Methods

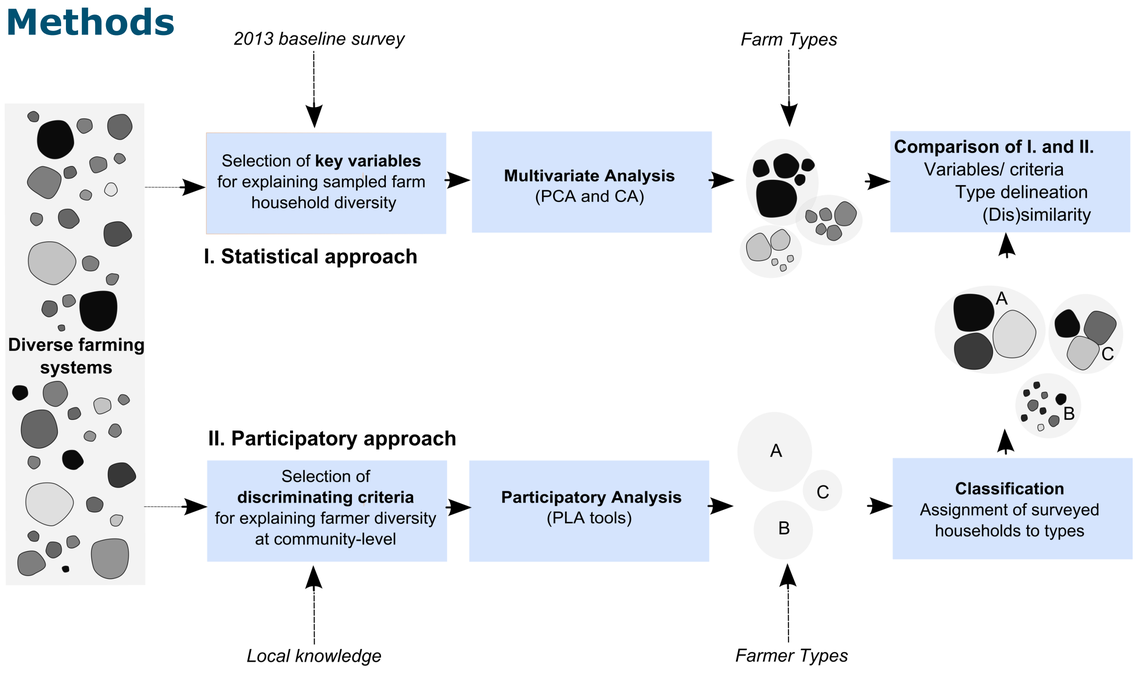
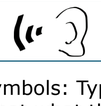


Figure 1. Framework of the statistical- and participatory approaches to typification (PCA: Principal component analysis; CA: Cluster analysis; PLA: Participatory Learning and Action).

Results

Table 1. Main characteristics of types (HRE: High resource endowed; MRE: Medium resource endowed; LRE: Low resource endowed; SRC: Severely resource constrained)

Type	Symbol	Main characteristics	% in survey
		Statistical Typology	
1		HRE, large cattle herd, ample off-farm activities	11%
2		MRE, large farms, market orientation	10%
3		MRE, small ruminants, on-farm labour intensive	13%
4		MRE, small ruminants, ample hired labour	46%
5		LRE, maize dominated, few off-farm activities	14%
6		SRC, livestock sales, ample off-farm activities	6%
		Participatory typology	
A		*Pukparkara* ('Big farmers'- men): HRE, market-orientation	8%
B		*Pukparsagsa* ('Medium farmers'- men): MRE, variable orientation	52%
C		*Pukparbihi* ('Small farmers'- men): LRE, subsistence orientation	40%
D		*Pagba pubihi* ('Small farmers'- women & children): LRE and SRC, market orientation	0%
E		*Suhukpion* ('Farm-less'- men): work on other farms as hired labour	0%

Farmer symbols: Type A. Household heads are always happy and smiling; Type B. Fist and outstretched hand indicate that what these farmers have is not enough, they need more to be self-sufficient; Type C. The hoe symbolizes that the farmers cannot afford to hire the services of a tractor; Type D. The cooking pot and cutlass are tools used by women; Type E. The ear suggests that the farm-less always listen out for work opportunities.

Variables/ Criteria

- Selection differed between statistical (12 quantitative key variables comprising household size, labour, land use, livestock and income) and participatory groupings (15 criteria - farm size and gender most discriminating).
- Similar descriptive names belied divergent underlying meaning due to interpretation/cultural differences.

Type delineation (Table 1.)

- Statistical: variables combined into a smaller number of dimensions (PCA) before clustering into six types (CA).
- Participatory: criteria used sequentially to group farmers according to farm size and then subdividing classes on the basis of other relevant criteria into five types.

(Dis)similarity (Figure 2.)

- Types D and E in participatory typology could be important target groups in the R4D project, but were not represented in statistical typology.
- For both typologies data were sometimes inaccurate: for the statistical typology survey data did not always reflect the reality (for various reasons), for the participatory typology cultural and social (power) issues tended to distort assessment of farms.
- Limited overlap between assignment of surveyed households to types when comparing the two typologies.
- Nevertheless, mean profile of participatory types roughly matches that of corresponding statistical types on selected variables.

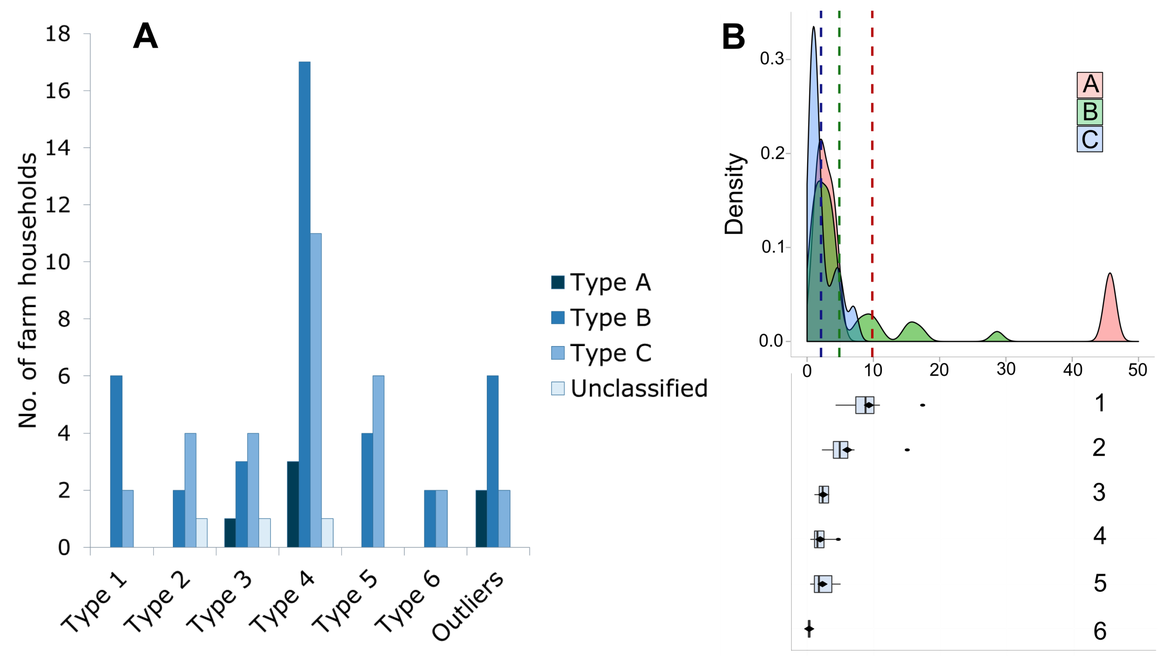


Figure 2. Classificatory overlap between the typologies (A) and kernel density curves (participatory Types A-C, group means represented by coloured dashed lines) combined with boxplots (statistical Types 1-6, group means represented by black markers) for the variable of herd size (total TLU) per Type (B).

Conclusions

- The statistical typology revealed general structure/ pattern of farm household variation: possibility for extrapolation beyond study area.
- By incorporating actor perspectives, the participatory typology captured context-specific aspects of farm complexity: may enhance local relevance and socio-cultural sensitivity of interventions.

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